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REMARKS

This is a full and timely response to the non-final Official Action mailed June 28, 2005. Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

Claim Status:

No amendments to the claims are made by the present paper. Claims 7, 27 and 34 have been cancelled previously. Claims 17-21 have been withdrawn under a previous Restriction Requirement. Thus, claims 1-6, 8-16, 22-26, 28-33 and 35-41 are currently pending for further action.

Allowable Subject Matter:

In the recent Office Action, the Examiner allowed claims 1-6, 14-16, 22-26 and 28-33. Applicant wishes to thank the Examiner for the allowance of these claims.

Objection to Abstract:

The Office Action objected to the Abstract of the disclosure as being only a single sentence. Accordingly, Applicant has amended the Abstract herein to conform to all applicable guidelines. Consequently, the objection to the Abstract should now be reconsidered and withdrawn. Notice to that effect is respectfully requested.

Claim Objections:

Claims 3 and 4 were objected to because the Office Action held claim 3 to be inconsistent with claim 1. Applicant respectfully disagrees.

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Claim 1 recites a “method of providing firmware for a printing device, said method comprising attaching a memory module storing said firmware to a printing device consumable, wherein said memory module contains said firmware and a firmware interface object.” The firmware interface, as described in Applicant’s specification at, for example, paragraph 0022, can be used to access and execute the firmware on the memory module without uploading the firmware to the printing device. This does not, however, preclude uploading of the firmware to the printing device as recited in claim 3.

According to Applicant’s specification at paragraph 0022, “The firmware interface (104) may also provide the host printing device with details about the different objects of firmware code (103) available on the module (110), such as the size, location, version number, purpose, etc. of each object of firmware code. *This information can be used by the host printing device to determine whether or not to upload the objects of firmware code (103) from the memory module (110).*” (emphasis added). Thus, even with the firmware interface in use, the printing device may still, for a variety of reasons, upload the firmware.

Consequently, there is no inconsistency between claims 1 and 3. Thus, the objection to claims 3 and 4 should be reconsidered and withdrawn.

Claim 15 was objected to as requiring minor reformatting. Claim 15 has been accordingly reformatted as presented above. No amendment to the language or substance of the claim is the made. Consequently, the objection to claim 15 should now also be reconsidered and withdrawn.

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Prior Art--Anticipation:

The outstanding Office Action rejected claims 8-10, 12-13, 35-38, 40 and 41 as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,930,553 to Hirst et al. ("Hirst").

For at least the following reasons, these rejections are respectfully traversed.

Independent claim 9 recites:

A method for executing firmware components from a printing device, said method comprising:

storing said firmware components on a memory module;

attaching said memory module to a printing device consumable;

installing said printing device consumable with attached memory module in a printing device; and

uploading part or all of said firmware components to a printing device memory;

wherein said uploading part or all of said firmware components to printing device memory comprises:

*determining if previous interfering firmware components already exist in said printing device memory; and*

*uploading said firmware components to printing device memory if no previous interfering firmware components are found.*

(emphasis added).

In this regard, the Office Action cites to Hirst at col. 5, lines 54-65. This portion of Hirst describes a flag bit or other device that is used *after the firmware is already uploaded into printing device memory* to cause the controller to execute the new firmware rather than corresponding older firmware. Quoting Hirst,

should it become necessary or desirable to update the instructions for a microcomputer 30, a software patch stored in memory segment 19e of consumable memory device 19 can be uploaded into EEPROM 33 [*in the printing device*]. A flag bit, an instruction address lookup table or another similar scheme in EEPROM 33 can be used by microcontroller 30 to indicate that alternative instructions are available in EEPROM 33 rather than the original instructions in ROM 32. In this manner, whole new features can be introduced into an existing product by the user when they replace a used consumable with a new one having an updated consumable memory device 19. Hirst at col. 5, lines 54-65

Consequently, Hirst does not teach or suggest "determining if previous interfering firmware components already exist in said printing device memory." In Hirst, there is no

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determination made as to whether firmware components existing in memory will interfere with new firmware components available on the memory of a consumable. Moreover, Hirst does not teach or suggest "uploading said firmware components to printing device memory *if no previous interfering firmware components are found.*" As quoted, Hirst merely teaches uploading all new firmware to printing device memory (EEPROM 33) and then using a flag or other device to direct the controller 30 to the new firmware so that the new firmware is executed rather than older firmware in ROM 32. There is no distinction taught, as claimed, that new firmware is uploaded "*if no previous interfering firmware components are found.*"

Consequently, Hirst fails to teach or suggest the subject matter of claim 9. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). For at least these reasons, the rejection of claim 9 and its dependent claims based on Hirst should be reconsidered and withdrawn.

Independent claim 36 similarly recites:

A printing device that allows access and use of firmware components stored on a memory module attached to a printing device consumable comprising:  
a printing device controller;  
a printing device memory; and  
a printing device interface disposed and configured to interface and communicate with said memory module attached to a printing device consumable supplied to said printing device;  
wherein said controller is configured to  
*determine if previous interfering firmware components already exist in said printing device memory; and*  
*upload said firmware components to printing device memory if no previous interfering firmware components are found.*

(emphasis added).

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As demonstrated above, Hirst does not teach or suggest a printing device having a controller that is configured to “determine if previous interfering firmware components already exist in said printing device memory; and upload said firmware components to printing device memory if no previous interfering firmware components are found.”

Consequently, Hirst fails to teach or suggest the subject matter of claim 36. “To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).” M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). For at least these reasons, the rejection of claims 36 and 37 based on Hirst should be reconsidered and withdrawn.

Independent claim 10 similarly recites:

A method for executing firmware components from a printing device, said method comprising:  
storing said firmware components on a memory module;  
attaching said memory module to a printing device consumable;  
installing said printing device consumable with attached memory module in a printing device; and  
uploading part or all of said firmware components to a printing device memory;  
wherein said uploading part or all of said firmware components to printing device memory comprises:  
*determining if previous interfering firmware components already exist in said printing device memory; and*  
*performing a replacement action if previous interfering firmware components are found.*  
(emphasis added).

As demonstrated above, Hirst fails to teach or suggest “determining if previous interfering firmware components already exist in said printing device memory.” Hirst does not teach or suggest any such determination. Hirst appears to teach that newly received firmware will always be placed in EEPROM for use. Because Hirst does not teach or suggest any determination or evaluation of whether existing firmware components will interfere with

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newly-available firmware from a consumable, Hirst must also fail to teach or suggest "performing a replacement action *if previous interfering firmware components are found.*" (emphasis added).

Again, "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). For at least these reasons, the rejection of claim 10 and its dependent claims based on Hirst should be reconsidered and withdrawn.

Independent claim 38 similarly recites:

A printing device that allows access and use of firmware components stored on a memory module attached to a printing device consumable comprising:  
a printing device controller;  
a printing device memory; and  
a printing device interface disposed and configured to interface and communicate with said memory module attached to a printing device consumable supplied to said printing device;  
*wherein said controller is configured to*  
*determine if previous interfering firmware components already exist in*  
*said printing device memory; and*  
*perform a replacement action if previous interfering firmware*  
*components are found.*  
(emphasis added).

As demonstrated above, Hirst fails to teach or suggest a controller that is configured to "determine if previous interfering firmware components already exist in said printing device memory." Hirst does not teach or suggest a controller configured to make any such determination. Hirst further fails to teach or suggest a controller that is configured to "perform a replacement action *if previous interfering firmware components are found.*" (emphasis added).

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Again, "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). For at least these reasons, the rejection of claim 38 and its dependent claims based on Hirst should be reconsidered and withdrawn.

Additionally, various dependent claims rejected in view of Hirst also recite subject matter that is neither taught nor suggested by the Hirst reference. Specific examples follow.

Dependent claim 12 recites "wherein said performing a replacement action comprises comparing a version of firmware in said printing device memory with a version of firmware in said memory module." Claim 40 recites similar subject matter. In contrast, Hirst does not appear to teach or suggest any such comparison of firmware versions in printing device memory and a memory module on a consumable.

Dependent claim 13 recites "wherein said uploading part or all of said firmware components to printing device memory comprises evaluating compatibility of said firmware components with said printing device." Claims 37 and 41 recite similar subject matter. In contrast, Hirst does not appear to teach or suggest any such evaluation of compatibility between new firmware components and the printing device.

Consequently, for at least these additional reasons, the various dependent claims noted are further patentable over the prior art cited. Notice to this effect is respectfully requested.

Prior Art—Obviousness:

Claim 11 and 39 were rejected as unpatentable under 35 U.S.C. § 103(a) over the teachings of Hirst or Tabb in combination with those of Johnson and U.S. Patent No.

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6,807,388 to Kojima et al. ("Kojima"). This rejection is respectfully traversed for at least the reasons given above with respect to independent claims 10 and 38, from which claims 11 and 39 respectively depend.

Conclusion:

For the foregoing reasons, the present application is thought to be clearly in condition for allowance. Accordingly, favorable reconsideration of the application in light of these remarks is courteously solicited. If the Examiner has any comments or suggestions which could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

DATE: 23 September 2005

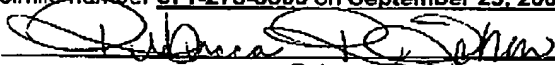
  
Steven L. Nichols  
Registration No. 40,326

Steven L. Nichols, Esq.  
Managing Partner, Utah Office  
**Rader Fishman & Grauer PLLC**  
River Park Corporate Center One  
10653 S. River Front Parkway, Suite 150  
South Jordan, Utah 84095

(801) 572-8066  
(801) 572-7666 (fax)

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Rebecca R. Schow